

# INTERNATIONAL SEARCH REPORT

PCT/IB2004/052063

**A. CLASSIFICATION OF SUBJECT MATTER**  
 IPC 7 H04L1/00 H04L1/06

According to International Patent Classification (IPC) or to both national classification and IPC

**B. FIELDS SEARCHED**

Minimum documentation searched (classification system followed by classification symbols)  
 IPC 7 H04L

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

EPO-Internal, INSPEC, WPI Data, PAJ

**C. DOCUMENTS CONSIDERED TO BE RELEVANT**

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	<p>NABAR R U ET AL: "Cut-off rate based transmit optimization for spatial multiplexing on general MIMO channels" 2003 IEEE INTERNATIONAL CONFERENCE ON ACOUSTICS, SPEECH, AND SIGNAL PROCESSING (CAT. NO.03CH37404) IEEE PISCATAWAY, NJ, USA, vol. 5, 6 April 2003 (2003-04-06), - 10 April 2003 (2003-04-10) pages V-61, XP002311307 ISBN: 0-7803-7663-3 pages V-61 - pages V-62</p> <p style="text-align: center;">----- -/--</p>	1,2,5-9, 12-18

☒ Further documents are listed in the continuation of box C.

☒ Patent family members are listed in annex.

**\* Special categories of cited documents :**

- "A" document defining the general state of the art which is not considered to be of particular relevance
- "E" earlier document but published on or after the international filing date
- "L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)
- "O" document referring to an oral disclosure, use, exhibition or other means
- "P" document published prior to the international filing date but later than the priority date claimed

- "T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
- "X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
- "Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art.
- "&" document member of the same patent family

Date of the actual completion of the international search

17 December 2004

Date of mailing of the international search report

29/12/2004

Name and mailing address of the ISA

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## C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	<p>NABAR R U ET AL: "Transmit optimization for spatial multiplexing in the presence of spatial fading correlation" GLOBECOM'01. IEEE GLOBAL TELECOMMUNICATIONS CONFERENCE (CAT. NO.01CH37270) IEEE PISCATAWAY, NJ, USA, vol. 1, 25 November 2001 (2001-11-25), - 29 November 2001 (2001-11-29) pages 131-135, XP002311308  ISBN: 0-7803-7206-9  abstract  page 132, right-hand column, paragraph 3 -  page 133, left-hand column, paragraph 1</p>	1,2,5-9, 12-18
X	<p>KIESSLING M ET AL: "Short-term and long-term diagonalization of correlated MIMO channels with adaptive modulation" 13TH IEEE INTERNATIONAL SYMPOSIUM ON PERSONAL INDOOR AND MOBILE RADIO COMMUNICATIONS. PIMRC 2002. PROCEEDINGS (CAT. NO.02TH8637) IEEE PISCATAWAY, NJ, USA, vol. 2, 15 September 2002 (2002-09-15), - 18 September 2002 (2002-09-18) pages 593-597, XP002311309  ISBN: 0-7803-7589-0  abstract  page 593 - page 595, left-hand column, paragraph 2</p>	1,3-8, 10-18
A	<p>US 2003/035491 A1 (HOWARD STEVEN J ET AL)  20 February 2003 (2003-02-20)  abstract  paragraph '0025! - paragraph '0026!  paragraph '0042! - paragraph '0045!  paragraph '0076! - paragraph '0082!</p>	3,10

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Patent document cited in search report		Publication date	Patent family member(s)		Publication date
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			CA	2446512 A1	21-11-2002
			EP	1386424 A1	04-02-2004
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